

**Method and Apparatus for Treating Irregular Ventricular Contractions Such  
As During Atrial Arrhythmia**

**Abstract**

A cardiac rhythm management system is capable of treating irregular ventricular heart contractions, such as during atrial tachyarrhythmias such as atrial fibrillation. A first indicated pacing interval is computed based at least partially on  
5 a most recent V-V interval duration between ventricular beats and a previous value of the first indicated pacing interval. Pacing therapy is provided based on either the first indicated pacing interval or also based on a second indicated pacing interval, such as a sensor-indicated pacing interval. A weighted averager such as an infinite impulse response (IIR) filter adjusts the first indicated pacing interval for sensed  
10 beats and differently adjusts the first indicated pacing interval for paced beats. The system regularizes ventricular rhythms by pacing the ventricle, but inhibits pacing when the ventricular rhythms are stable.

"Express Mail" mailing label number: EM287848892US

Date of Deposit: MAY 21, 1999  
I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

Printed Name SUNJEL ARORA

Signature Sunjel Arora